The fishing of pollack in Europe is situated between 10 and 15 000 tons a year. Since 1980, a decrease of landings has been observed. In 1996 France was the first producer and landing still reaching 3350 tons in 1998. However, the demand remaining strong, aquaculture could be a solution to satisfy the deficit between the production and the domestic demand. Because of the presence of pollack from the North of Norway to the North of Portugal, but also of its good flesh quality, pollack could be a good candidate for the fish farming on the French Atlantic coast. Research have been initiated in this species in the middle of the 90's.

Reproduction

Spawning was obtained from wild breeders acclimatized to inland facilities. First maturation was obtained in 2 year old males (0.7 kg). Maintained in 15 m³ tank, breeders spawn spontaneously. Spawn occurs from the end of January to the end of April. The fertility is high (600 000 ova.kg⁻¹). Pollack is a batch spawner (mean of 5 spawns.female⁻¹).

Egg production of pollack injected or implanted with GnRHa are not significantly different. Spawning was obtained from 2 year old males (0.7 kg). Maintained in 15 m³ tank, breeders spawn spontaneously. Spawn occurs from the end of January to the end of April.

Growing

A growth model was established till puberty : 

\[ W_f = \left[ W_i + 0.33 \times \left( e^{-0.1606 (T_m - 22)} - e^{-0.1823 (T_m - 22)} \times \frac{1}{0.33} \right) \right]^{10.33} \]

Where: 
- \( W_f \) = final weight, \( W_i \) = initial weight, \( T_m \) = mean temperature for the period and \( d \) = duration of the period.

The highest specific growth rate are obtained for temperatures close to 16°C. 90% of maximal growth are obtained between 12 and 18°C (Fig3).

Fishes were fed with dry food containing 50% of proteins and 12% of lipids. The conversion rate was comprised between 1 and 1.2.

Larval rearing

An upward flow in the tank allows to obtain survival rate significantly superior than that obtained with a downward flow of the water (Fig1).

Between 100 and 1000 lux, there is no significant influences of the light intensity on survival. In the same way there is no significative difference of survival at 12°C, 15°C or 18°C; respectively 28% ± 0.11, 26.3% ± 0.06 and 23.3% ± 0.9 for a light intensity of 1000 lux (Fig2).

These biological results can sustain pollack aquaculture in France. The intermediate market price requires reduced production costs, which can be obtain by an improvement of survival rates during incubation and larval rearing phases and by a better knowledge of the nutritional requirements of the breeders and juveniles.